



IFWO

RAW SEQUENCE LISTING

DATE: 07/28/2004

PATENT APPLICATION: US/10/820,583A

TIME: 16:48:28

Input Set : A:\HO-P02673US1.txt

Output Set: N:\CRF4\07282004\J820583A.raw

3 <110> APPLICANT: Schneider, Michael
 4 Oh, Hidemasa
 6 <120> TITLE OF INVENTION: Modulators of Telomere Stability
 8 <130> FILE REFERENCE: HO-P02673US1
 10 <140> CURRENT APPLICATION NUMBER: US 10/820,583A
 11 <141> CURRENT FILING DATE: 2004-04-08
 13 <150> PRIOR APPLICATION NUMBER: US 60/461,095
 14 <151> PRIOR FILING DATE: 2003-04-08
 16 <160> NUMBER OF SEQ ID NOS: 24
 18 <170> SOFTWARE: PatentIn version 3.1
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 500
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Human
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 36 35 40 45
 39 Glu Glu Ala Val Asn Arg Trp Val Leu Lys Phe Tyr Phe His Glu Ala
 40 50 55 60
 43 Leu Arg Ala Phe Arg Gly Ser Arg Tyr Gly Asp Phe Arg Gln Ile Arg
 44 65 70 75 80
 47 Asp Ile Met Gln Ala Leu Leu Val Arg Pro Leu Gly Lys Glu His Thr
 48 85 90 95
 51 Val Ser Arg Leu Leu Arg Val Met Gln Cys Leu Ser Arg Ile Glu Glu
 52 100 105 110
 55 Gly Glu Asn Leu Asp Cys Ser Phe Asp Met Glu Ala Glu Leu Thr Pro
 56 115 120 125
 59 Leu Glu Ser Ala Ile Asn Val Leu Glu Met Ile Lys Thr Glu Phe Thr
 60 130 135 140
 63 Leu Thr Glu Ala Val Val Glu Ser Ser Arg Lys Leu Val Lys Glu Ala
 64 145 150 155 160
 67 Ala Val Ile Ile Cys Ile Lys Asn Lys Glu Phe Glu Lys Ala Ser Lys
 68 165 170 175
 71 Ile Leu Lys Lys His Met Ser Lys Asp Pro Thr Thr Gln Lys Leu Arg
 72 180 185 190
 75 Asn Asp Leu Leu Asn Ile Ile Arg Glu Lys Asn Leu Ala His Pro Val
 76 195 200 205
 79 Ile Gln Asn Phe Ser Tyr Glu Thr Phe Gln Gln Lys Met Leu Arg Phe
 80 210 215 220



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83 Leu Glu Ser His Leu Asp Asp Ala Glu Pro Tyr Leu Leu Thr Met Ala
84 225                230                235                240
87 Lys Lys Ala Leu Lys Ser Glu Ser Ala Ala Ser Ser Thr Gly Lys Glu
88                245                250                255
91 Asp Lys Gln Pro Ala Pro Gly Pro Val Glu Lys Pro Pro Arg Glu Pro
92                260                265                270
95 Ala Arg Gln Leu Arg Asn Pro Pro Thr Thr Ile Gly Met Met Thr Leu
96                275                280                285
99 Lys Ala Ala Phe Lys Thr Leu Ser Gly Ala Gln Asp Ser Glu Ala Ala
100                290                295                300
103 Phe Ala Lys Leu Asp Gln Lys Asp Leu Val Leu Pro Thr Gln Ala Leu
104 305                310                315                320
107 Pro Ala Ser Pro Ala Leu Lys Asn Lys Arg Pro Arg Lys Asp Glu Asn
108                325                330                335
111 Glu Ser Ser Ala Pro Ala Asp Gly Glu Gly Gly Ser Glu Leu Gln Pro
112                340                345                350
115 Lys Asn Lys Arg Met Thr Ile Ser Arg Leu Val Leu Glu Glu Asp Ser
116                355                360                365
119 Gln Ser Thr Glu Pro Ser Ala Gly Leu Asn Ser Ser Gln Glu Ala Ala
120                370                375                380
123 Ser Ala Pro Pro Ser Lys Pro Thr Val Leu Asn Gln Pro Leu Pro Gly
124 385                390                395                400
127 Glu Lys Asn Pro Lys Val Pro Lys Gly Lys Trp Asn Ser Ser Asn Gly
128                405                410                415
131 Val Glu Glu Lys Glu Thr Trp Val Glu Glu Asp Glu Leu Phe Gln Val
132                420                425                430
135 Gln Ala Ala Pro Asp Glu Asp Ser Thr Thr Asn Ile Thr Lys Lys Gln
136                435                440                445
139 Lys Trp Thr Val Glu Glu Ser Glu Trp Val Lys Ala Gly Val Gln Lys
140                450                455                460
143 Tyr Gly Glu Gly Asn Trp Ala Ala Ile Ser Lys Asn Tyr Pro Phe Val
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166 Ala Cys Ser Gln Pro His Gly Ser Val Thr Gln Ser Gln Gly Ser Ser
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170 Ser Gln Ser Gln Gly Ile Ser Ser Ser Thr Ser Thr Met Pro Asn
171                35                40                45
174 Ser Ser Gln Ser Ser His Ser Ser Ser Gly Thr Leu Ser Ser Leu Glu
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178 Thr Val Ser Thr Gln Glu Leu Tyr Ser Ile Pro Glu Asp Gln Glu Pro
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182 Glu Asp Gln Glu Pro Glu Glu Pro Thr Pro Ala Pro Trp Ala Arg Leu
183              85              90              95
186 Trp Ala Leu Gln Asp Gly Phe Ala Asn Leu Glu Cys Val Asn Asp Asn
187              100              105              110
190 Tyr Trp Phe Gly Arg Asp Lys Ser Cys Glu Tyr Cys Phe Asp Glu Pro
191              115              120              125
194 Leu Leu Lys Arg Thr Asp Lys Tyr Arg Thr Tyr Ser Lys Lys His Phe
195              130              135              140
198 Arg Ile Phe Arg Glu Val Gly Pro Lys Asn Ser Tyr Ile Ala Tyr Ile
199 145              150              155              160
202 Glu Asp His Ser Gly Asn Gly Thr Phe Val Asn Thr Glu Leu Val Gly
203              165              170              175
206 Lys Gly Lys Arg Arg Pro Leu Asn Asn Asn Ser Glu Ile Ala Leu Ser
207              180              185              190
210 Leu Ser Arg Asn Lys Val Phe Val Phe Phe Asp Leu Thr Val Asp Asp
211              195              200              205
214 Gln Ser Val Tyr Pro Lys Ala Leu Arg Asp Glu Tyr Ile Met Ser Lys
215              210              215              220
218 Thr Leu Gly Ser Gly Ala Cys Gly Glu Val Lys Leu Ala Phe Glu Arg
219 225              230              235              240
222 Lys Thr Cys Lys Lys Val Ala Ile Lys Ile Ile Ser Lys Arg Lys Phe
223              245              250              255
226 Ala Ile Gly Ser Ala Arg Glu Ala Asp Pro Ala Leu Asn Val Glu Thr
227              260              265              270
230 Glu Ile Glu Ile Leu Lys Lys Leu Asn His Pro Cys Ile Ile Lys Ile
231              275              280              285
234 Lys Asn Phe Phe Asp Ala Glu Asp Tyr Tyr Ile Val Leu Glu Leu Met
235              290              295              300
238 Glu Gly Gly Glu Leu Phe Asp Lys Val Val Gly Asn Lys Arg Leu Lys
239 305              310              315              320
242 Glu Ala Thr Cys Lys Leu Tyr Phe Tyr Gln Met Leu Leu Ala Val Gln
243              325              330              335
246 Tyr Leu His Glu Asn Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn
247              340              345              350
250 Val Leu Leu Ser Ser Gln Glu Glu Asp Cys Leu Ile Lys Ile Thr Asp
251              355              360              365
254 Phe Gly His Ser Lys Ile Leu Gly Glu Thr Ser Leu Met Arg Thr Leu
255              370              375              380
258 Cys Gly Thr Pro Thr Tyr Leu Ala Pro Glu Val Leu Val Ser Val Gly
259 385              390              395              400
262 Thr Ala Gly Tyr Asn Arg Ala Val Asp Cys Trp Ser Leu Gly Val Ile
263              405              410              415
266 Leu Phe Ile Cys Leu Ser Gly Tyr Pro Phe Ser Glu His Arg Thr
267              420              425              430
270 Gln Val Ser Leu Lys Asp Gln Ile Thr Ser Gly Lys Tyr Asn Phe Ile
271              435              440              445
274 Pro Glu Val Trp Ala Glu Val Ser Glu Lys Ala Leu Asp Leu Val Lys

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275      450      455      460
278 Lys Leu Leu Val Val Asp Pro Lys Ala Arg Phe Thr Thr Glu Glu Ala
279 465      470      475      480
282 Leu Arg His Pro Trp Leu Gln Asp Glu Asp Met Lys Arg Lys Phe Gln
283      485      490      495
286 Asp Leu Leu Ser Glu Glu Asn Glu Ser Thr Ala Leu Pro Gln Val Leu
287      500      505      510
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310      20      25      30
313 Ser Gln Ser Gln Gly Ile Ser Ser Ser Ser Thr Ser Thr Met Pro Asn
314      35      40      45
317 Ser Ser Gln Ser Ser His Ser Ser Ser Gly Thr Leu Ser Ser Leu Glu
318      50      55      60
321 Thr Val Ser Thr Gln Glu Leu Tyr Ser Ile Pro Glu Asp Gln Glu Pro
322 65      70      75      80
325 Glu Asp Gln Glu Pro Glu Glu Pro Thr Pro Ala Pro Trp Ala Arg Leu
326      85      90      95
329 Trp Ala Leu Gln Asp Gly Phe Ala Asn Leu Glu Cys Val Asn Asp Asn
330      100      105      110
333 Tyr Trp Phe Gly Arg Asp Lys Ser Cys Glu Tyr Cys Phe Asp Glu Pro
334      115      120      125
337 Leu Leu Lys Arg Thr Asp Lys Tyr Arg Thr Tyr Ser Lys Lys His Phe
338      130      135      140
341 Arg Ile Phe Arg Glu Val Gly Pro Lys Asn Ser Tyr Ile Ala Tyr Ile
342 145      150      155      160
345 Glu Asp His Ser Gly Asn Gly Thr Phe Val Asn Thr Glu Leu Val Gly
346      165      170      175
349 Lys Gly Lys Arg Arg Pro Leu Asn Asn Asn Ser Glu Ile Ala Leu Ser
350      180      185      190
353 Leu Ser Arg Asn Lys Val Phe Val Phe Phe Asp Leu Thr Val Asp Asp
354      195      200      205
357 Gln Ser Val Tyr Pro Lys Ala Leu Arg Asp Glu Tyr Ile Met Ser Lys
358      210      215      220
361 Thr Leu Gly Ser Gly Ala Cys Gly Glu Val Lys Leu Ala Phe Glu Arg
362 225      230      235      240
365 Lys Thr Cys Lys Lys Val Ala Ile Lys Ile Ser Lys Arg Lys Phe
366      245      250      255
369 Ala Ile Gly Ser Ala Arg Glu Ala Asp Pro Ala Leu Asn Val Glu Thr

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```

370          260          265          270
373 Glu Ile Glu Ile Leu Lys Lys Leu Asn His Pro Cys Ile Ile Lys Ile
374          275          280          285
377 Lys Asn Phe Phe Asp Ala Glu Asp Tyr Tyr Ile Val Leu Glu Leu Met
378          290          295          300
381 Glu Gly Gly Glu Leu Phe Asp Lys Val Val Gly Asn Lys Arg Leu Lys
382 305          310          315          320
385 Glu Ala Thr Cys Lys Leu Tyr Phe Tyr Gln Met Leu Leu Ala Val Gln
386          325          330          335
389 Ile Thr Asp Phe Gly His Ser Lys Ile Leu Gly Glu Thr Ser Leu Met
390          340          345          350
393 Arg Thr Leu Cys Gly Thr Pro Thr Tyr Leu Ala Pro Glu Val Leu Val
394          355          360          365
397 Ser Val Gly Thr Ala Gly Tyr Asn Arg Ala Val Asp Cys Trp Ser Leu
398          370          375          380
401 Gly Val Ile Leu Phe Ile Cys Leu Ser Gly Tyr Pro Pro Phe Ser Glu
402 385          390          395          400
405 His Arg Thr Gln Val Ser Leu Lys Asp Gln Ile Thr Ser Gly Lys Tyr
406          405          410          415
409 Asn Phe Ile Pro Glu Val Trp Ala Glu Val Ser Glu Lys Ala Leu Asp
410          420          425          430
413 Leu Val Lys Lys Leu Leu Val Val Asp Pro Lys Ala Arg Phe Thr Thr
414          435          440          445
417 Glu Glu Ala Leu Arg His Pro Trp Leu Gln Asp Glu Asp Met Lys Arg
418          450          455          460
421 Lys Phe Gln Asp Leu Leu Ser Glu Glu Asn Glu Ser Thr Ala Leu Pro
422 465          470          475          480
425 Gln Val Leu Ala Gln Pro Ser Thr Ser Arg Lys Arg Pro Arg Glu Gly
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449          20          25          30
452 Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Val
453          35          40          45
456 Thr Ala Ala Ile Lys Val Met Asp Val Thr Glu Asp Glu Glu Glu Glu
457          50          55          60
460 Ile Thr Leu Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg Asn
461 65          70          75          80
464 Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Ser Pro Pro Gly His
465          85          90          95

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VERIFICATION SUMMARY

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